

ABSTRACT

5 An automated model componentization feature systematically converts duplicate or otherwise amenable patterns in a model into references. Multiple references are simplified to one unit that contains the otherwise duplicated functionality. Duplicated or selected functionality is identified based on a number of arguments that may be user supplied. These arguments include the level of polymorphism (i.e., which of the sample

10 times, dimensions, and data types can be propagated in) but also the maximum size of the patterns to look for to address the general trade-off of generating few partitions with many blocks or many partitions with few blocks and which modeling constructs are used (e.g., whether Go To/From connections such as in Simulink® are present). Model conversions can result in potentially disjoint partitions.

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